## REMARKS

In accordance with 37 CFR §1.116, applicant has limited the claims at issue and has cancelled Claims 41, 48 and 49. As can be determined, applicant has also provided the subject matter of Claim 48 into independent Claim 35 and has provided the same allowable features of the indicated allowable dependent Claim 49.

The Final Office Action maintained a rejection of Claims 35, 36, 40-41, 46-48 and 50 as being obvious over a combination of *Durocher et al.* (U.S. Patent No. 6,614,103) when taken in view of *Okizaki et al.* (U.S. Patent Publication 2003/0062530).

Applicant has incorporated the allowed subject matter of defining a base substrate made of a highly heat conductive material that has been previously defined as allowable subject matter in Claim 49.

In accordance with the Examiner's direction on Page 4 of the Office Action, and based on the support in our specification on Page 95, Line 23 to Page 96, Line 12, as set forth below, applicant has provided a definition of the base substrate material compatible with the mounting of the multilayer epitaxial structure that would exist in an apparatus format. The support in our specification is as follows:

> (5) According to the third embodiment, the SiC substrate 13004 is used as a base substrate for forming, by epitaxial growth, the multilayer epitaxial structure made up of the n-AlGaN buffer layer 13012 to the p-GaN contact layer 13022. The reason for this is explained in the following. The SiC substrate 13004 has equal or higher heat conductivity compared with copper and aluminum. This feature enables heat generated within the light emitting layer 3018 to be effectively conducted to the ceramics substrate 3201, which is a printed-wiring board on which the LED array chips 3002 are mounted. Accordingly, the SiC substrate 13004 can be replaced with any of an AlN substrate, a GaN substrate, a BN substrate and an Si substrate which similarly have high heat conductivity.

> Alternatively, the SiC substrate 13004 can be replaced with a common sapphire substrate to realize the present invention, even though the sapphire substrate has slightly lower heat conductivity.
> (underline added)

The amendment to Claim 35 is consistent with our invention of providing a base substrate that would be suitable for epitaxial growth. Applicant had argued, which is acknowledged on Page 2 of the Examiner's Response to our Arguments that a flexible thin polyamide sheet was not an applicable base structure in depositing a multilayer epitaxial semiconductor structure. The Office Action had asserted that "depositing a multilayer epitaxial semiconductor structure" was a process limitation. Applicant respectfully traverses this interpretation of Claim 35, which is an apparatus claim and clearly defines that

> "the base substrate has provided thereon a semiconductor multilayer epitaxial structure that defines specifically the first conductive layer, a light emitting layer, and a second conductive layer formed in the stated order." (underline added)

This is not a process step, but rather is describing a physical characteristic of the light emitting device as a finished product. Likewise, the dependent Claim 48 is referring to a structural characteristic that can be determined from a physical inspection as to its position closer to a base substrate than a portion of a first epitaxial grown layer.

The Examiner is correct in that a process must be utilized in producing a multilayer epitaxial structure in a semiconductor light emitting device, but this does not detract from the fact that once the structure is created, it has physical characteristics and relationships that are apparatus limitations in our Claim 35. As such, there is no process limitation being presented but rather, the position of the stacked components associated with a particular base substrate.

In defining an invention, a difficulty arises in using a two-dimensional verbal definition to represent a three-dimensional invention. To provide protection to an inventor and notification

to the public, a proper interpretation of terms utilized in the claims must be adhered to in order to enable an appropriate evaluation of the invention and its scope relative to cited prior art.

Thus, not only should the concept of the invention be found in the prior art, but further, any cited structural elements in a prior art reference should be performing the same function with the same technical understanding to a person of ordinary skill in the field as the invention claims at issue.

Applicant believes the Examiner's further comments as to the *Durocher et al.* structure in that the fabrication of the LED chip structure and the carrier packaging are at two different points of time, do not negate the importance of applicant's current apparatus claim limitations in Claim 35.

Applicant's prior arguments went to the entire weight given to a reference as to whether a person of ordinary skill in this field would combine the particular type of base substrate cited in the reference for creating the particular type of semiconductor light emitting device defined in our claims.

It is believed, however, that applicant has now responded to a recommendation of the Examiner, on Page 4, that "a specific material of a base substrate and the mounting of the multilayer epitaxial structure" would provide patentable subject matter.

Applicant has also provided a new dependent Claim 53 from the now allowable independent Claim 35 in defining not only SiC but the features of a highly heat conductive material to dissipate heat within the light emitting layer so that it can be effectively coupled to the ceramic substrate, see above Page 95 specification insert and also Page 31, Line 16 to Page 32, Line 3.

New dependent Claim 54 is also supported on Page 13, Lines 16-17 as follows:

> a non-doped (highly resistive) SiC substrate 4 which is a semiconductor substrate (hereinafter simply referred to as "an SiC substrate 4").

In summary, we have amended Claim 35 so as to limit the base substrate to be "made of a highly heat-conductive material." This structure provides improved dissipation of heat generated in a multilayer epitaxial structure during light emission. In other words, according to the amended Claim 35, the base substrate is made of a highly heat-conductive material, in order to efficiently dissipate heat generated in the multilayer epitaxial structure. Accordingly, it is possible to prevent lowering of the luminance in the semiconductor light emitting device and improve the luminous efficiency.

According to the structure disclosed in *Durocher et al.*, the carrier 31 and the flexible module base 41 corresponding to the base substrate of the amended Claim 35 are made of a plastic resin material that is only a low heat-conductive material and is not capable of improving heat dissipation. Accordingly, improvements in luminance cannot be expected, and the resulting luminous efficiency will be lowered.

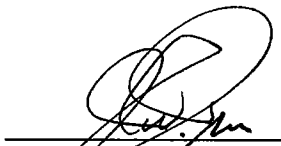
The semiconductor light emitting device of the present invention cannot be realized even if the LED chip 59 of *Durocher et al.* is replaced with the multilayer epitaxial structure of *Okazaki*.

In accordance with the above comments, it is believed that the case is now in condition for allowance and an early notification of the same is requested.

If the Examiner believes a telephone interview will help further the prosecution of this case, the undersigned attorney can be contacted at the listed phone number.

Very truly yours,

**SNELL & WILMER L.L.P.**



Joseph W. Price
Registration No. 25,124
600 Anton Boulevard, Suite 1400
Costa Mesa, CA 92626
Telephone: (714) 427-7420
Facsimile: (714) 427-7799